

Work Order ID 158473

Thursday, March 23, 2017 10:06:02 AM

158473

Page 1

Item ID: D2011-101

Revision ID:

Item Name: Mirror 6"

Start Date: 3/24/2017 Start Qty: 20.00

Required Date: 3/31/2017 Req'd Qty: 20.00

Reference: SCHEDULED

Approvals: Process Plan:

QC:

DAS
21
9-89

Date: MAR 23 2017

Date:

Tooling:

SPC (Y/N):

Date:

Date:

N900040100

Cust Item ID:

Customer:

Setup Start ***NS1***Stop ***NS2***Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2011	Rev G								
100		0.00							
100	PURCHASING					20		MAR 27 2017	DAS 13 9-89
Purchasing	Memo	0.00							
Purchasing	Issue P/O: <u>35731</u> Mirror P/N: 28663 supplier: B C INDUSTRIAL Material release note required								
110	Receive & Inspect for Damage & Mat'l Certs	0.00							
110									
Packaging	Memo	0.40							
Packaging	Ensure material certification is attached								
120	QC6- Inspect dimensions to drawing	0.00							
120						20			DAS 38 9-89
QC	Memo	0.00							
Quality Control									

APR 12 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : _____			

Work Order ID 158473

Thursday, March 23, 2017 10:06:02 AM

158473

Page 2

Item ID: D2011-101

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Mirror 6"

Start Date: 3/24/2017 Start Qty: 20.00

20

Cust Item ID:

Required Date: 3/31/2017 Req'd Qty: 20.00

20

Customer:

Reference: SCHEDULED

Run Start ***NR1***

Approvals: Process Plan:

Date:

Tooling:

Date:

Stop ***NR2***

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

130

0.00

130

Small Fab

Small Fab

Memo

0.84

Small Fab

1- Wrap mirror with plastic wrap

2- Discard Hardware & Install new hardware loosely

3- Crimp stud as per Dwg D2011

140

QC5- Inspect part completeness to step on W/O

0.00

140

QC

Memo

0.40

Quality Control

4- Test assembly to 50lbs pull test after 24 hours

150

Identify as per dwg & Stock Location: 51384

0.00

150

Packaging

Memo

0.20

Packaging

Pto

DAS
38
9-8**P.T.O.**DAS
38
9-89

APR 20 2017

19

19

DAS
38
9-89

APR 25 2017

DQA:

Date: 2017-03-09



QA Closed:

Date: AUG - 2 2017

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

Work Order: 158473		DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. 2011-101		Rework ☐		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐		
NCR No. 17-6569		Scrap ☒		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
		Use-as-is ☐		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☒			
Date: 17/04/19		Step #: 17-04-19 130		QTY Effective: 1			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition					
Found one mirror with a dot in it.				Scrap + Destroy				Completed By	
CHM-10601				Not replace				17/04/19 DAS 36 9-89	
								Lead hand / Supervisor Approval Verification	
								DAS 30 9-89 17-04-19	
								QC / QA Coordinator Approval	
								DAS 9 9-89 17-04-20	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☒	Cracks ☐	Broken/Damage/Defect ☒	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER: <i>[Signature]</i>							
Misidentified ☐	Past Due ☐								

Work Order ID 158473***158473***

Page 3

Thursday, March 23, 2017 10:06:02 AM

Item ID: D2011-101

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Mirror 6"

Start Date: 3/24/2017 Start Qty: 20.00

20

Cust Item ID:

Required Date: 3/31/2017 Req'd Qty: 20.00

20

Customer:

Reference: SCHEDULED

Run Start ***NR1***

Approvals: Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Stop ***NR2***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

QC21- Final Inspection - Work Order Release

0.00

160

QC

Memo

2.00

Quality Control

DAS
21
9-88

MAY 04 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : _____			

Picklist Print

Thursday, March 23, 2017 10:06:07 AM

Page 1

Work Order ID: 158473

158473

Parent Item: D2011-101

D2011-101

Parent Item Name: Mirror 6"

Start Date: 3/24/2017

Required Date: 3/31/2017

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP: J04.09.15 Added Steps 5-7 KJ/JLM IPP:
K05.12.15 chg black sikaflex for white EC IPP L 08.11.06 new
drawing EC verify: DD IPP: M 08.12.19 Added step 3 KJ Verified
by: LL IPP rev N 10.01.13 added wrap per ncr09-118 EC verified by: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
NAS1149D0416J		Purchased	No			110	Each	3,810.000	1	20			
NAS1149D0416.J									**			17/04/18	DAS 36 9-89
WASHER													

Location	Loc Qty	Loc Code
GA	789	
m131511	789	
ST264	3021	
m131511	3021	

CHM-10601		Purchased	No			130	Each	0.0000	1	20			
CHM-10601									**			20x SP17-4-11	
Mirror 6" 28663 CZ MAY 03 2017													
D2829		Manufactured	No			130	Each	39.0000	1	20			
D2829									**			17/04/18	DAS 36 9-89
Threaded Stud													

Location	Loc Qty	Loc Code
GA	39	
146644	12	
151503	5	
155604	22	

D3014-1		Manufactured	No			130	Each	90.0000	1	20			
D3014-1									**			17/04/18	DAS 36 9-89
Lock Nut													

Location	Loc Qty	Loc Code
ST015	90	
122272	90	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval 	
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____							
Misidentified	☐	Past Due	☐								

8

7

6

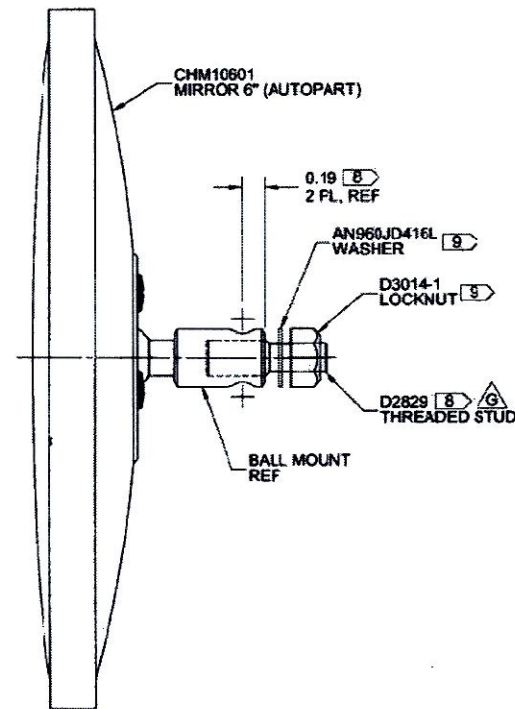
5

4

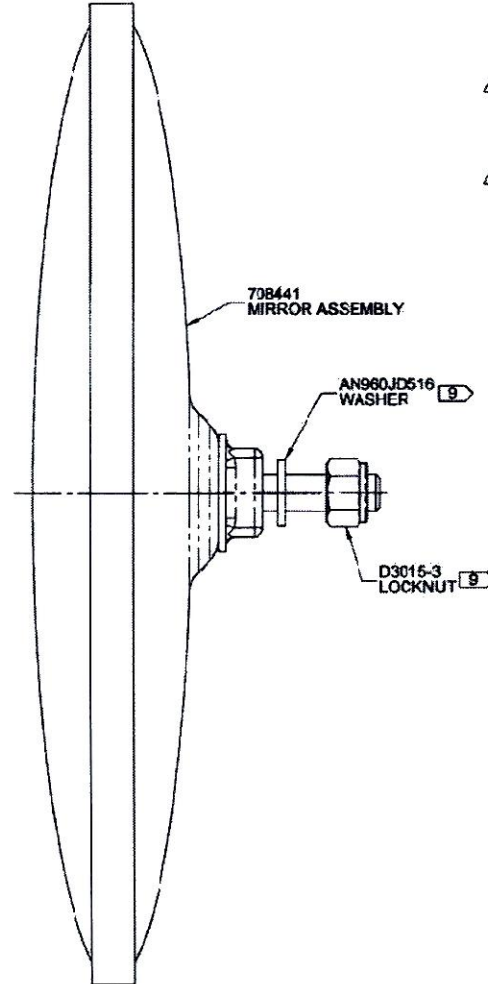
3

2

1

**D2011-101 MIRROR ASSEMBLY 6"****NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D2011-101 = 0.6 lbs APPROX. ; D2011-103 = 1.0 lbs APPROX.
- 8) D2829 INSTALLATION PROCEDURE:
 - APPLY LOCKTITE 262 TO Ø5/16 END OF D2829
 - THREAD BY HAND INTO BALL MOUNT UNTIL ENTIRE Ø5/16 END OF D2829 IS WITHIN BALL MOUNT
 - CRIMP BALL MOUNT ON TWO OPPOSING SIDES, 0.19 FROM END AS ILLUSTRATED USING TOOL DT8317
 - CRIMP TO DEPTH OF 0.040±0.010 USING R0.125
- 9) INSTALL LOOSE

**D2011-103 MIRROR ASSEMBLY 8"**

ITEM	QTY -101	QTY -103	P/N	DESCRIPTION
1	X		D2011-101	MIRROR ASSEMBLY 6"
2		X	D2011-103	MIRROR ASSEMBLY 8"
3	1		D2829	THREADED STUD
4	1		D3014-1	LOCKNUT
5		1	D3015-3	LOCKNUT
6	1		CHM10601	MIRROR 6" (AUTOPART)
7		1	708441	MIRROR 8" (VELVAC)
8	1		AN960JD416L	WASHER
9		1	AN960JD516	WASHER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 158473 M.L.S.

1703-23
RELEASED
08-10-2006

G	REDRAWN IN SOLIDWORKS TO CURRENT STANDARD AND TRANSFERRED TO 10" SIZE FORMAT: MIRROR 6" (AUTOPART) AND CHM10601 WERE: MIRROR 6" (GROTE) AND PIN 28043 (2H D3-1); ADDED D2829 (2H D3-1 AND 2H CS-1); REMOVED DRILLING NOTE, VIEW A-A AND SIKAFLEX APPLICATION NOTE. REASON: GROTE PRODUCT IS DISCONTINUED	MB	08.10.06
F	ADD HOLES FOR SEALANT ON -101	CP	04.09.10
E	NEW 8" MIRROR	CP	01.05.08
D	NEW 6" MIRROR, ADD NUT, REMOVED STUD	CP	01.04.23
C	REPLACE DOMINION AUTO MIRRORS WITH PHILLIPS, ADDED STUDS, REDRAWN	RF	99.06.01
B	SIKAFLEX 241 ADDED	JB	98.04.09
A	DWG NO. WAS DSP1011, ADDED -103	JB	90.06.15
-	NEW ISSUE	JB	90.03.31
REV.	DESCRIPTION	BY	DATE
DESIGN	JB		
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.10.06		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO.

D2011

REV. G
SHEET 1 OF 1

TITLE

MIRROR ASSEMBLY

SCALE
NTS

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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO35731**

Purchase Order Date 3/27/2017 8:12:28 AM

PO Print Date 3/27/2017

Page Number 1 of 1

Order From :

VC-BC1001

Ship To : DART AEROSPACE LTD

B C INDUSTRIAL
14 OLD FOREST
KIRKLAND, QUEBEC H9J 2Z8

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

MAR 27 2017

Contact Name

Vendor Phone 514-585-8907

Ship To Contact

Ship To Phone

Ship Via: FedEx Economy collect

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
2	28663	Mirror 6"	3/31/2017 Yes 3/31/2017	FN	20.00 Each	\$18.70	\$374.00
AS PER DWG D2011 REV. G B158473							
Line Total:							\$374.00
3	71401-45	PROCUREMENT QUALITY CLAUSES	3/31/2017 No 3/31/2017		1.00	\$0.00	\$0.00
PROCUREMENT QUALITY CLAUSES A005 RIGHT OF ENTRY A016 PERSONNEL QUALIFICATION A025 CERTIFICATE OF CONFORMANCE A040 NOTIFICATION OF QUALITY ESCAPE A042 DART NOTIFICATION BY SUPPLIER A043 RETENTION OF QUALITY DOCUMENTS							
Line Total:							\$0.00
PO Total:							\$374.00

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr: 1

Change Date: 3/27/2017

Apr 10 2017

Packing Slip

PS170410DA

Livrer a/Ship to:

Dart Aerospace Ltd
1270 Aberdeen
Hawksbury, Ont
K6A 1K7

Votre PO# 35731

Description	Livrer/Ship	B/O
1. mirror 28663	20	0

SP17-4-11

BC Industrial.... 14 Old Forest....Kirkland, Quebec.. H9J2Z8
Phone 514-585-8907 bcpc1@videotron.ca

BC Industrial..... 14 Old Forest....Kirkland....Quebec....H9J-2Z8....Canada

Phone 514-585-8907

Email bcpc1@videotron.ca

FACTURE/INVOICE

INV170410DA

Apr 10 2017

Ref Notre PS# PS170410DA

Votre PO# 35731

Vendu a

Dart Aerospace Ltd
1270 Aberdeen
Hawksbury, Ont
K6A 1K7

Description	Quan	Prix	Total
1. mirror 28663	20	18.70	374.00

8817-411

374.00

HST 48.62

TOTAL 422.62

#TPS/GST-14264062

#TVQ/PST-1021696907

Terms 2%10 Net 30

BC Industrial..... 14 Old Forest....Kirkland....Quebec....H9J-2Z8....Canada

Phone 514-585-8907

Email bcpc1@videotron.ca

Certificate of Compliance

Apr 10 2017

Dart Aerospace Ltd
1270 Aberdeen
Hawksbury, Ont
K6A 1K7

Att: Chantal Lavoie

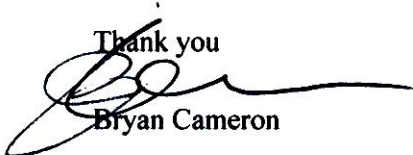
This is to confirm that the parts delivered on our

PS170410DA

mirror 28663

conforms to the specifications outlined on your purchase
order 35731

Thank you



Bryan Cameron

#TPS/GST-14264062

#TVQ/PST-1021696907

Terms 2%10 Net 30